

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A system for damping thermo-acoustic instability in a combustor ~~device~~ for a gas turbine, the combustor ~~device~~ comprising at least one combustion chamber and at least one burner associated [[to]] with said combustion chamber and mounted in a position corresponding to a front portion set upstream of the combustion chamber; the damping system comprising at least one Helmholtz resonator, ~~in turn~~ the Helmholtz resonator comprising a casing defining ~~inside~~ it a pre-set volume therein and a neck for hydraulic connection between said pre-set volume and said combustion chamber; ~~said system being characterized in that~~ said neck [[is]] being connected to one side of said combustion chamber distant from said front upstream portion thereof of said combustion chamber provided with said at least one burner.
  
2. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 1, ~~characterized in that~~ said combustion chamber ~~is of~~ comprises an annular combustion chamber ~~type~~, said at least one resonator being set in a circumferential position about said combustion chamber, said resonator housed within an air case for delivery of air for supporting combustion set outside an annular body delimiting said combustion chamber.

3. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 2, ~~characterized in that~~ said casing of the resonator comprises ~~means for delivery of a passage configured to deliver~~ cooling fluid.

4. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 3, ~~characterized in that~~ ~~means for delivery of a cooling fluid consist of~~ said passage comprising a plurality of holes [[of]] having a pre-set diameter ~~made~~ extending through the casing of the resonator and designed to enable passage of part of said air for supporting combustion towards said combustion chamber directly through said pre-set volume and said neck of the resonator.

5. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 4, ~~characterized in that~~ wherein said holes are ~~made~~ provided only through an end plate of said casing of the resonator, facing the side opposite to said combustion chamber, and are arranged in positions asymmetrical to one another.

6. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 2, ~~characterized in that~~ said casing of the resonator comprises ~~means for a volume adjuster configured to selectively varying~~ vary said pre-set volume within a pre-set range.

7. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 6, ~~characterized in that~~ said casing of the resonator comprises two cup-shaped

tubular bodies, which are mounted in a telescopic way co-axially on one another, with respective concavities facing one another, by ~~means of~~ a threaded coupling; and a threaded fixing ring-nut, which is coupled outside on one [[first]] of said cup-shaped tubular bodies provided, in a single piece, with said neck and is ~~designed~~ configured to bear axially upon one ~~second~~ the other of said cup-shaped tubular bodies, screwed outside on the former one on the side opposite to said combustion chamber.

8. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 2, ~~characterized in that~~ said casing and said neck of said at least one resonator have a cylindrical symmetry and are arranged with respective axes of symmetry thereof parallel to aligned with one another and oriented to form a pre-set angle with a direction of flow of burnt gases that traverse said combustion chamber.

9. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 8, ~~characterized in that~~ said pre-set angle is substantially of being approximately 90°.

10. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 8, ~~characterized in that it comprises~~ further comprising more than one of said Helmholtz resonators, said combustor comprising more than one of said burners; said resonators being mounted circumferentially in a ring, in cantilever fashion orientation on said annular body delimiting said combustion chamber, in positions asymmetrical with respect to one another, both in a radial direction and in the axial direction with reference

to an axis of symmetry of said annular combustion chamber, and with the respective necks hydraulically connected to a downstream portion of said combustion chamber.